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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,966	09/20/2001	Gregory S. Andre	017750-413	1908
21839	7590	12/13/2006	EXAMINER	
BUCHANAN, INGERSOLL & ROONEY PC			AHN, SAM K	
POST OFFICE BOX 1404			ART UNIT	
ALEXANDRIA, VA 22313-1404			PAPER NUMBER	
			2611	

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/955,966

Applicant(s)

ANDRE ET AL.

Examiner

Sam K. Ahn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/27/06 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bastiani et al., USP 6,609,167 B1 (Bastiani, cited previously) in view of Wilson et al. USP 6,718,413 B1 (Wilson, cited previously).

Regarding claim 1, Bastiani teaches a transceiver (172 in Fig.10) for use within a multi-tier system bus configuration comprising: means for independently receiving and transmitting instructions (Host Controller 368 in Fig.41 independently transmitting and receiving via Tx Rx elements 372) via the system

bus (166 in Fig.10) from one or more peripheral devices (106 in Fig.10, note col.1, lines 30-42) connected to the system bus, means for buffering instructions received and transmitted (354, 356, 358, 360, 362, 364, 366 in Fig.41) via the system bus (166 in Fig.10) to provide a separate buffering of control actions (wherein control actions are interrupts, 362,366 in Fig.41) from DMA operations (356,358,360 in Fig.41, wherein the DMA and Control Action buffering is coupled to the transceiver Tx Rx 372, one skilled in the art at the time the invention was made would recognize that the buffering takes place for both receiving and transmitting where reading and writing from and out of memory or buffer is implemented by address locations in a memory or buffer), wherein said means for independently receiving instructions is configured to discriminate between different types of input, and wherein said means for independently transmitting instructions is configured to interleave said instructions (as taught by Bastiani, DMA instructions are buffered in 356,358,360 elements, while HCI instructions including interrupt are buffered in a separate memory (362,364,366), thus discriminating and interleaving the packets being transmitted and received (note col.48, lines 50-67).

However, Bastiani does not explicitly teach wherein access to the multi-tier system bus is arbitrated such that control actions preempt DMA operations.

Wilson teaches, in the same field of endeavor, wherein access to the multi-tier system bus (308 in Fig.3) is arbitrated (note col.3, line 66 – col.4, line 12, wherein different peripheral devices are arbitrating for the system bus) such that control

actions preempt DMA operations (note col.10, lines 57-65, wherein interrupts or control actions preempt DMA operations or operations to execute transferring of data to the system bus, 308).

Hence, both Bastiani and Wilson teach DMA operations and control actions wherein Wilson further teaches wherein interrupts or control actions preempt DMA operations or operations to execute transferring of data to the system bus, 308), thus results in

reducing the number of interrupts, as taught by Wilson (note col.3, line 66 – col.4, line 12). Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the teaching of Wilson in the system of Bastiani by having the function of arbitrating in the host controller (104a in Fig.10 of Bastiani) during the arbitrating phase (402,414 in Fig.2 of Wilson) for the purpose of reducing the number of interrupts, as taught by Wilson (note col.3, line 66 – col.4, line 12).

Regarding claims 2 and 5, Bastiani further teaches wherein said means for independently transmitting is configured to interleave and discriminate the instructions based upon instruction type (wherein the instruction types are divided between DMA and HCI, as explained above).

Regarding claims 3 and 6, Bastiani further teaches wherein said instructions are contained within packets and said means for independently transmitting and

receiving is configured to interleave and discriminate the instructions based upon packet type (as separate memories or buffers are implemented depending on the packet type).

Regarding claims 4 and 7, Bastiani further teaches wherein said packets comprise DMA and CA (control action or control interrupt or HCI) packet types (note col.48, lines 57-59).

Regarding claim 8, Bastiani further teaches wherein said means for receiving is configured to provide specialized control functions, such as a reset function (see Fig.26 and note col.42, lines 26-28).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bastiani et al., USP 6,609,167 B1 (Bastiani, cited previously) in view of Wilson et al. USP 6,718,413 B1 (Wilson, cited previously) and Gephardt et al., USP 5,555,430 (Gephardt, cited previously).

Regarding claim 9, Bastiani in view of Wilson teach all subject matter claimed, as applied to claim 8. As explained previously, Bastiani further teaches said specialized control functions, such as a reset function. However, Bastiani does not explicitly teach further control functions of a timer function and a broadcast function.

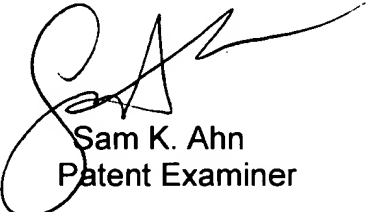
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Gephardt teaches in the same field of endeavor, having a system bus wherein packets are transmitted and received from the system bus and further teaches such control functions of the timer (timer latency) and broadcast (broadcast interrupt) functions (note col.22, line 61 – col.23, line 17). Therefore, it would have been obvious to one skilled in the art at the time of the invention to include the functions of timer and broadcast, as taught by Gephardt in Bastiani's system for the purpose of increasing the control functions, and thus provide the system with a more controllable system through the control functions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam K. Ahn  
Patent Examiner

12/9/06